MICHIGAN STATE UNIVERSITY

Project Plan

Faia: Fashion Artificial Intelligence Assistant

The Capstone Experience

Team Amazon

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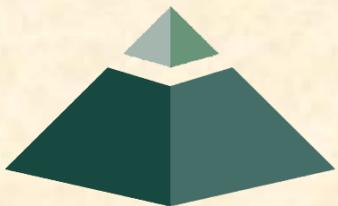Zizhen Wang
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Fall 2017

From Students…
…to Professionals

Functional Specifications

- Amazon is one of the largest internet companies in the world, specializing in electronic commerce and cloud computing
- To increase its role in the fashion market, Amazon is looking to provide a uniquely tailored experience for clothes with the largest catalog of any clothing provider
- The solution to this problem is Faia, the Fashion Artificial Intelligence Assistant
- Faia will provide a uniquely tailored experience to shop for clothes that emulates trendy subscription services that deliver a tailored box of clothing based on the customer's stylistic choices
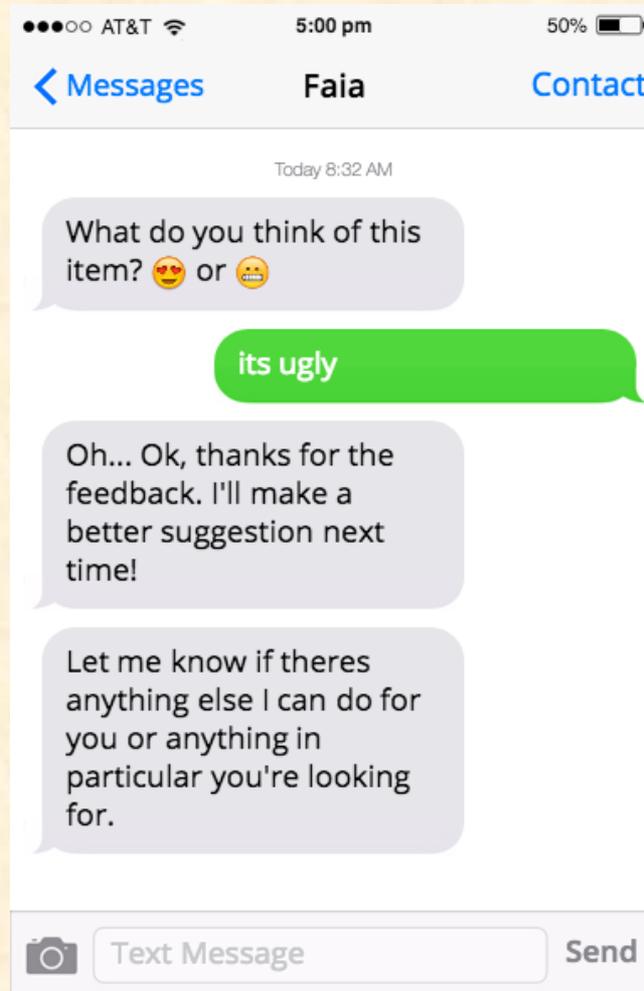
Design Specifications

- Users will start using Faia by signing up with their Amazon account online and filling out a style preference questionnaire consisting mostly of sample clothing to choose from
- After filling out the style questionnaire, the users will be greeted in an SMS message and will interact with Faia using SMS messages
- The user will get clothing suggestions and will start getting better suggestions after providing feedback about whether they liked the suggested clothes or not
- Faia will initially be able to communicate through SMS, but the core of Faia will be designed to allow for easy extension to other platforms

Screen Mockup: Web Interface
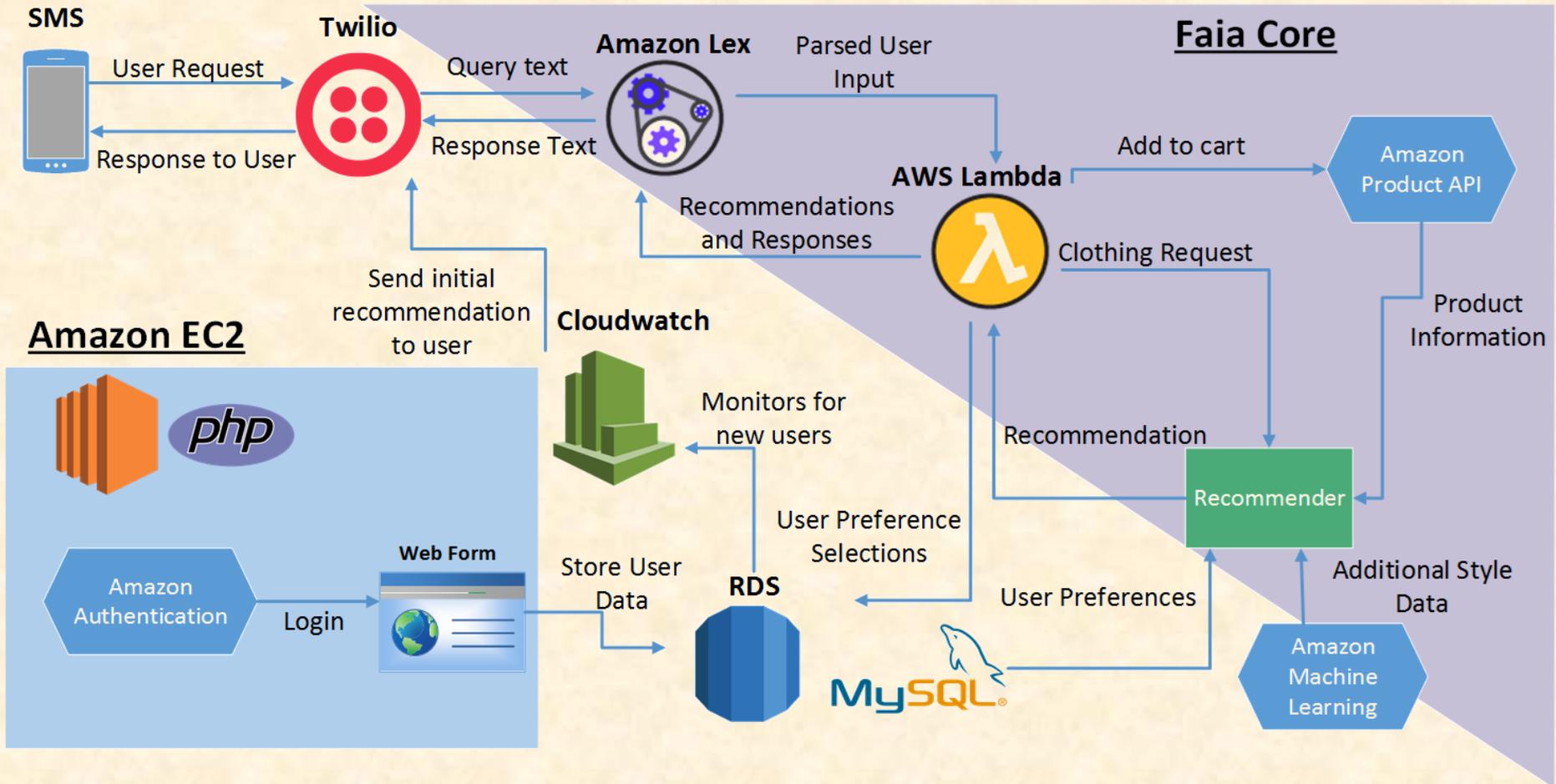
Screen Mockup: SMS Interface

Technical Specifications

- Web signup hosted on EC2 and made with HTML/JavaScript/PHP

- SMS communication handled by Twilio

- User input and responses handled by Amazon Lex and Lambda

- Recommender uses some Amazon Machine Learning and previous user preferences stored in RDS (MySQL) to choose new suggestions

System Architecture

System Components

- Hardware Platforms
  - Phone (for SMS access)
- Software Platforms / Technologies
  - Amazon Lex
  - AWS Lambda
  - Twilio
  - Amazon Product Advertising API
  - Amazon RDS with MySQL
  - EC2 Web server (with HTML/JavaScript/PHP)

Testing

- PHP Unit Testing for web portions of project
- Will test that the database can be properly accessed and added to even with project changes
- Use W3C Validator to test that the web form appearance isn't broken at any point
- Peer review

Risks

- Amazon Web Services
  - Description: Integration of several Amazon products and APIs
  - Mitigation: Develop initial prototype with these services
- Machine Learning and Style Preference
  - Description: Recommend products based on user's style
  - Mitigation: Client is looking to provide us with initial dataset. Products API's similar products feature will help determine recommendations
- Natural Language Understanding (NLU)
  - Description: Determining user's intent with fashion related terminology
  - Mitigation: Amazon Lex has the capability to learn common terms
- Communication Medium
  - Description: Limitations with SMS
  - Mitigation: User will first interact with Faia through a web form sign up and SMS messages will incorporate embedded HTML

Questions?